```
     (FILE 'HOME' ENTERED AT 13:22:00 ON 08 OCT 1998)

     FILE 'INSPEC' ENTERED AT 13:22:32 ON 08 OCT 1998
L1          9002 CADMIUM TELLURIDE OR CDTE
L2         11321 CDS OR CADMIUM SULPHIDE
L3         67021 ARGON OR AR
L4         12266 L3(2A)(ION# OR ATOM#)
L5            59 L2 AND L3 AND L4
L6         18816 OHM###
L7             1 L5 AND L6
L8             4 L1 AND L2 AND L4

     FILE 'CA' ENTERED AT 13:29:25 ON 08 OCT 1998
L9             6 L8

     FILE 'WPIDS' ENTERED AT 13:43:19 ON 08 OCT 1998
L10            1 L8

     FILE 'INSPEC' ENTERED AT 13:44:10 ON 08 OCT 1998

     FILE 'WPIDS' ENTERED AT 13:44:13 ON 08 OCT 1998
L11        18126 P TYPE
L12           64 P (2A)L1
L13            0 L12 AND L4

     FILE 'INSPEC' ENTERED AT 13:47:41 ON 08 OCT 1998
L14            4 L13

     FILE 'CA' ENTERED AT 13:50:19 ON 08 OCT 1998
L15            4 L13
L16            0 L14 NOT L15
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L8 ANSWER 1 OF 4 INSPEC COPYRIGHT 1998 IEE

AB. . . host materials. Two of them are attributed to glass defects around semiconductor nanocrystals and the other to S vacancies in **CdS** nanocrystals. The increase in electron spin resonance absorption with **Ar-ion** laser irradiation reveals that carriers photoexcited in nanocrystals are trapped not only on nanocrystal defects but also glass defects.

ST semiconductor-doped glasses; ESR; phosphate glasses; precipitation; nanocrystals; S vacancies; **Ar-ion laser irradiation**; 77 K; **P2O5-CdS**; P2O5-CdSe; **P2O5-CdTe**

L8 ANSWER 2 OF 4 INSPEC COPYRIGHT 1998 IEE

TI Origin and identification of impurities in electrodeposited **cadmium telluride** films.

AB Impurities in electrodeposited thin films of **CdTe** are identified from secondary ion mass spectroscopy (SIMS) data obtained with a Perkin-Elmer PHI Model 2500, a Cameca IMS 3F and a Cameca IMS 4F operated with the primary **ions Ar**+, O- and Cs+ respectively. The sources of the impurities are sought using the techniques of SIMS, inductively coupled plasma-atomic emission. . . atomic absorption spectrophotometry to analyse the components of the plating bath solution (cadmium sulphate, Milli-Q water, sulphuric aid, tellurium anode, glass/ITO/**CdS**-cathode, reference electrodes) and the solution containers. Six different supplies of 3CdSO4.8H2O are investigated. Each had at least twelve impurities totalling over 61 mu g/g. Each impurity in the **CdTe** films is present in the deposition chemicals or leached from the materials in contact with these chemicals. It is concluded that **CdTe** film purity may be enhanced by judicious choice of deposition materials and procedure.

ST. . . inductively coupled plasma-atomic emission spectroscopy; atomic absorption spectrophotometry; plating bath solution; Milli-Q water; reference electrodes; solution containers; 3CdSO4.8H2O; deposition chemicals; **electrodeposited CdTe thin films**; CdSO4H2O

L8 ANSWER 3 OF 4 INSPEC COPYRIGHT 1998 IEE

AB. . .. scanning electron microscope after bombardment at normal incidence at room temperature with doses between 0.5*1018 and 3*1018 of 40 keV **argon ions**/cm2. The usual topography of the sputtered surface and the perturbing effects of dirt and contamination are reported, and observations of. . . steep slopes. The behaviour of Si, Ge, GaAs and InP was consistent with an amorphous surface. In the case of **CdTe**, **CdS** and GaP it appeared that the crystal structure was retained resulting in a topography of the sputtered surface that is. . .

ST sputtered semiconductors; cone formation; GaAs; flux enhancement; Si; Ge; GaAs; InP; **CdTe**; **CdS**; GaP; **Ar ions**

L8 ANSWER 4 OF 4 INSPEC COPYRIGHT 1998 IEE

AB The structure of (1010), (1120) planes and the (0001) Cd, (0001) S polar surfaces of AIIBVI-compounds: **CdS**, CdSe and (110) **CdTe** planes grown from the vapor phase were studied by means of optic and scanning electron microscope. The etching of crystals by 1.5 keV **Ar+ ion** bombardment was carried out. The analysis by microanalyzer 'Cameca' showed that the phase

composition of the crystals before and after. .

ST group II VI compounds; semiconductors; surface structure; sputtering; ions scattering; **CdS**; CdSe; **CdTe**; etching; polar surface identification; phase composition; ion bombardment; low angle boundaries; dislocation density; glide bands

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     (FILE 'USPAT' ENTERED AT 13:56:27 ON 08 OCT 1998)
L1           2835 CADMIUM TELLURIDE OR CDTE
L2           9404 CADMIUM SULPHIDE OR CDS
L3            187 P(3A)L1
L4         111894 ARGON OR AR
L5           8087 L4(3A)(ION# OR ATOM#)
L6              7 L3 AND L5 AND L2
L7             28 DHIS
L8             13 L3 AND L5
L9              0 L6 NOT L8
L10             6 L8 NOT L6
L11           160 438/525,528/CCLS
L12             0 L5 AND L1 AND L11
L13             1 L1 AND L11
L14            22 L5 AND L11
L15            33 438/518/CCLS
L16             1 L5 AND L1 AND L15
L17             0 L1 AND L4 AND L11
L18            66 438/718/CCLS
L19             3 L1 AND L5 AND L18
L20            39 438/603/CCLS
L21             1 L1 AND L5 AND L20
L22             0 CDS/CDTE
L23             3 L5 AND L20
L24             1 L23 AND L1

=> d l19 1-3
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1. 5,318,666, Jun. 7, 1994, Method for via formation and type conversion in group II and group VI materials; Jerome L. Elkind, et al., **438/718**, 513, 916, 971 [IMAGE AVAILABLE]

2. 5,017,511, May 21, 1991, Method for dry etching vias in integrated circuit layers; Jerome L. Elkind, et al., 438/704; 148/DIG.51; 216/67, 75; 427/534; **438/718** [IMAGE AVAILABLE]

3. 4,411,732, Oct. 25, 1983, Method of manufacturing a detector device; John T. M. Wotherspoon, 204/192.34; 257/442, 461; 427/528; 438/518, 571, **718**, 971 [IMAGE AVAILABLE]

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=> d l23 1-3
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1. 5,213,998, May 25, 1993, Method for making an ohmic contact for p-type group II-VI compound semiconductors; Jun Qiu, et al., 438/46; 117/108; 148/DIG.64, DIG.95; **438/603** [IMAGE AVAILABLE]

2. 4,439,912, Apr. 3, 1984, Infrared detector and method of making same; John H. Pollard, et al., 438/72; 204/192.17, 192.34; 250/370.13; 257/442, 448; 438/98, **603** [IMAGE AVAILABLE]

3. 3,983,264, Sep. 28, 1976, Metal-semiconductor ohmic contacts and methods of fabrication; Walter H. Schroen, et al., 257/734; 204/192.17, 192.3, 192.34; 257/473; 427/299, 309, 527, 578; 438/597, 602, **603**, 604 [IMAGE AVAILABLE]